

Appl. No. : 10/556,129
Filed : November 9, 2005

AMENDMENTS TO THE SPECIFICATION

Please amend the Specification as follows. Insertions are shown underlined while deletions are ~~struck through~~.

Please amend paragraph [0002] on page 1 as follows:

Image display devices such as liquid crystal displays, plasma displays, cathode ray tubes (CRTs) and electroluminescences (ELs) (hereinafter collectively referred to as “displays”) are being used in various fields such as TV and computer and their technologies are progressing rapidly. In particular, liquid crystal displays are enjoying remarkable growth as a thin, lightweight and versatile display medium for use with thin televisions (TVs), mobile phones, personal computers, digital cameras, personal digital assistants (PDAs) and various other devices.

Please delete paragraph [0006] on page 2 and insert the paragraph shown below before the heading of “Summary of Invention” on page 2:

While they can suppress surface reflections, however, displays that are given the aforementioned antiglare treatment using a resin binder and organic clear fine particles do present problems of blurry image and dazzling effect caused by unnecessary diffusion of image information output on the display. In addition, these displays also cause the so-called “whitening” phenomenon in which the antiglare surface of the display looks whitish due to the effect of external light. Furthermore, in the case of a liquid crystal display, the antiglare treatment sometimes causes the viewing angle characteristics to deteriorate, in which case the contrast may drop and image may look faded when viewed from oblique directions.

Please amend paragraph [0013] on page 2 as follows:

Also, preferably, the aforementioned light-diffusing layer has ~~an~~ a convex-concave surface, and convex parts of this convex-concave surface are formed by the convex sections of spherical fine resin particles and bowl-shaped fine resin particles. In this case, preferably, a thickness of the

thinnest part of the light-diffusing layer is greater than the height of the aforementioned bowl-shaped fine resin particle. In addition, preferably, the average particle size of the aforementioned spherical fine resin particles is in a range of 110 to 300% of the height of the aforementioned bowl-shaped fine resin particle. Furthermore, preferably, an average roughness Ra of the aforementioned convex-concave surface is in a range of 0.1 to 1.0 μm .

Please delete the heading of “Effects of the Invention” and paragraphs [0014]-[0017] on pages 5-6 and insert the paragraphs shown below after the heading of “Best Mode for Carrying Out the Invention” on page 7:

The antiglare film proposed by the present invention uses spherical fine resin particles and bowl-shaped fine resin particles to provide the effect of widening the viewing angles of the display while suppressing blurry image. To be specific, the unique shape of the bowl-shaped fine resin particle provides a greater effect of limiting the diffusion of light to specific directions, compared with the spherical fine resin particle, and therefore the presence of bowl-shaped fine resin particles helps embody the effect of widening the viewing angles of the display while suppressing blurry image.

In general, a film given an antiglare treatment generates a dazzling effect because of local light intensity differences over the surface of the antiglare film, which in turn is caused by the surface irregularities of the antiglare film that are formed by fine particles and also caused by the lens effect of the interface between the clear resin phase and fine particle that respectively have a different refractive index. In the antiglare film proposed by the present invention, however, two types of interfaces are formed in the light-diffusing layer: an interface between the clear resin phase and spherical fine resin particle, and another between the clear resin phase and bowl-shaped fine resin particle. Of the two interfaces, the latter comprises components having the refractive index relationship specified in formula (1) above, and therefore cancels out the lens effects of both interfaces and thereby eliminates any dazzling effect. This also helps eliminate the dazzling effect caused by the surface irregularities of the antiglare film.

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A film given an antiglare treatment also presents a problem of whitening if the surface irregularities of the antiglare film formed by fine particles are prominent. If the surface irregularities are too insignificant, the antiglare property, or the property to suppress reflection of external light, becomes insufficient. With the antiglare film proposed by the present invention, however, the convex parts of the convex-concave surface are formed by spherical fine resin particles alone or by a mixture of spherical fine resin particles and bowl-shaped fine resin particles. This unique surface irregularity design suppresses whitening of the surface, while adding an appropriate antiglare property to the surface.

In summary, the antiglare film proposed by the present invention can be used as a surface member of various lighting equipment and displays, and in particular it can be favorably used on image display devices such as liquid crystal displays, plasma displays, CRTs and ELs.

Please amend paragraph [0041] on page 13 as follows:

In the antiglare film proposed by the present invention, the light-diffusing layer should preferably have an irregular surface. Although the convex parts of the irregular surface may be formed by spherical fine resin particles alone, it is desirable that they be formed by a mixture of spherical fine resin particles and bowl-shaped fine resin particles. If the convex parts of the irregular surface are formed by a mixture of spherical fine resin particles and bowl-shaped fine resin particles, these convex parts are effectively formed by the spherical fine resin particles, by the convex sides, or semi-spherical parts, of bowl-shaped fine resin particles, as well as by the convex rings formed along the rims of concave parts provided on the concave sides of bowl-shaped fine resin particles. The shapes and numbers of these convex parts can be observed using a laser microscope or scanning electron microscope (SEM).